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10/563,088	12/30/2005	Takafumi Yoshimura	396.45629X00	8126

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EXAMINER	
CHO, JENNIFER Y	
ART UNIT	PAPER NUMBER
1621	
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04/04/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/563,088	YOSHIMURA ET AL.	
	Examiner	Art Unit	
	JENNIFER Y. CHO	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/20/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

Receipt is acknowledged of the Response filed 11/30/2007.

Claims 1-20 are considered to be the elected invention.

Claim Rejections – 35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-20 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Igari et al. (JP2003012597) and Aizawa et al. (JP2003089673) and Singh et al. (US 5892138). For reasons, see previous office action and responses stated herein.

Response to Arguments

Applicant's arguments have been fully considered but they are not persuasive.

The Examiner acknowledges Applicant's argument that the references would not teach the following features: a) microporous compound is a beta-form zeolite, with the limitations for the zeolite in claims 3-5, b) wherein the oxidizing agent is iodic acid and/or periodic acid, c) wherein the microporous compound is separated and recovered,

followed by re-employment in the reaction step, with specified processing of the separated and recovered microporous compound, d) wherein the reaction step is performed in acetic acid as the solvent and e) wherein the purification step is crystallization, with the crystallization limitations in claims 14-16.

In response, the Examiner addresses each of these claimed features:

a) Singh et al. teaches a zeolite catalyst which contains a SiO2/Al2O3 molar ratio from 2-10 and an alkali or alkaline earth metal in the catalyst, thus meeting Applicant's limitations in claims 3-5. Though the art does not specifically state a beta-form zeolite catalyst, since Singh et al.'s catalyst reads on Applicant's zeolite catalyst, the Examiner takes the position that these catalysts are equivalent and interchangeable.

b) Igari et al. teaches the use of periodic acid as the iodination agent (see claim 2).

c) Singh et al. teaches a recyclable zeolite can be used (column 7, line 46). The Examiner interprets this as meeting Applicant's limitation for separation, recovery and reuse of the zeolite.

d) Igari et al. teaches the use of acetic acid as the solvent in the iodination reaction (section 10, line 6).

e) Aizawa et al. teaches recrystallization of the product (section 12, lines7-8; section 18, lines 7-8).

In regards to the limitations for temperature, ratios, purification and recovery of the microporous compound, it is the position of the Examiner that one of ordinary skill in the art, at the time of the invention, would through routine and normal

experimentation determine the optimization of these limitations to provide the best effective variable depending on the results desired. Thus it would be obvious in the optimization process to optimize the temperature, ratios, purification and recovery of the microporous compound.

The Examiner acknowledges Applicant's argument that the art does not teach a 5-iodo-2-methylbenzoic acid at a purity of 99% or higher, with the impurity limitations in claims 17 and 20.

In response, the Examiner contends that Aizawa et al. teaches 5-iodo-2-methylbenzoic acid with a purity of 99.3% (section 20, line 9). Since the art is silent as to the amount of the other impurities, the Examiner has taken the position that these limitations are inherent in the purity of the compound. It is reasonable to assume the amount of impurities was in the prior art, particularly since the art synthesizes the same compound with the same overall purity.

The Examiner acknowledges Applicant's argument that the Examples and Comparative Examples in Applicant's specification show unexpectedly better results in selectivity, yield and purity.

The Examiner has carefully considered Applicant's disclosure and the Examples and Comparative Examples in Applicant's specification, but has not found a convincing argument that the combination of all the materials, 1) a microporous compound, 2) iodine, 3) an oxidizing agent and 4) acetic anhydride, synergistically results in higher selectivity, yield and purity. Applicant has alleged advantages over the prior art, but has not shown convincing side by side comparisons with the prior art, because of the lack of

comparative examples with the claims and the prior art. In addition, the Applicant has not clearly shown that the combination of these reagents is synergistic. The Applicant has failed to provide a true side by side comparison that clearly demonstrates which reagents must necessarily be present and is responsible for the allegedly high yields, purities and selectivity. For instance, example 1 on page 18 and comparative example 2 on page 22 use different amounts of reagents so it is unclear how the final purity and yield are achieved. The higher yield can be a result of routine optimization by varying the molar ratios of the reagents.

The Examiner acknowledges Applicant's argument that there is no motivation to combine the references.

In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it is permissible for the Examiner to rely on disclosures, which fairly teach embodiments of Applicant's invention. The claims require a multitude of elements and it is reasonable for one of ordinary skill in the art to consider these elements being used together.

The Examiner acknowledges Applicant's argument that the teachings of Singh et al. relates to a totally different technical field and is non-analogous art with the other two Japanese documents.

In response to Applicant's argument that Singh et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Singh et al. is reasonably pertinent to the particular problem because Singh et al. teaches iodination of aromatic compounds.

The Examiner acknowledges Applicant's argument that a hindsight reconstruction was used to form the rejection.

In response to Applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

The Examiner acknowledges Applicant's argument that the combined references would not teach the use of acetic anhydride.

The Examiner contends that Singh et al. does teach the use of carboxylic acid anhydrides (e.g. acetic anhydride) in the halogenation/iodination reaction (column 8, claim 9, line 46).

Therefore, it would be prima facie obvious to one of ordinary skill in the art at the time of the invention, to combine the teachings of Igari et al., Aizawa et al. and Singh et al., with the reasonable expectation that the combined chemical process would be streamlined and result in cost reduction. The expected result would be the efficient production of 5-iodo-2-methylbenzoic acid for the chemical industry.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Y. Cho whose telephone number is (571) 272 6246. The examiner can normally be reached on 9 AM - 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on (571) 272 0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Samuel A Barts/
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